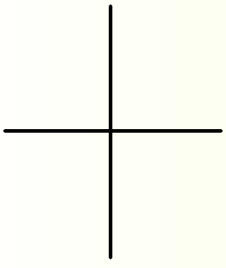
Alg. 2 Warm Up # 3-4

1. Use the Zero Product Property to solve:

a) $3x^2 - 12x = 0$

b) $x^2 - 11x + 28 = 0$

2. Find the intercepts and graph: $3x - y = 6$



3. Solve:

$$\frac{8}{x} + 14 = 72$$

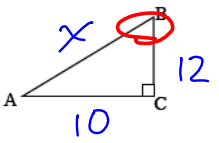
HW Questions:

1-113. Solve each equation below for x.

a. $10 - 2(2x + 1) = 4(x - 2)$

b. $5 - (2x - 3) = -8 + 2x$

1-114. The right triangle shown at right has a height ($m\overline{BC}$) of 12 cm, and its area is 60 square cm. Find $m\angle B$ and the length of the hypotenuse.



$A = 60$

$A = \frac{1}{2}bh$

$60 = \frac{1}{2}b(12)$

$\frac{60}{6} = \frac{6b}{6}$

$b = 10$

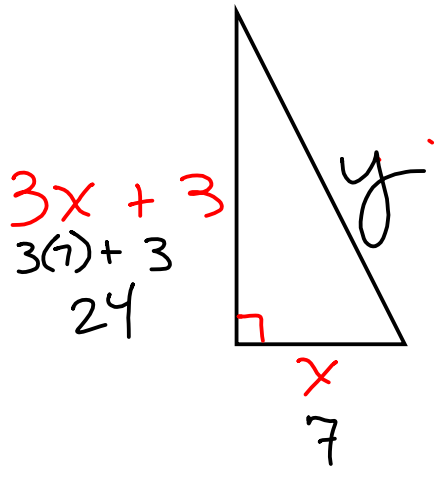
SOHCAHTOA

$\tan B = \frac{10}{12}$

$\tan B = \frac{5}{6}$

$B = \tan^{-1}\left(\frac{5}{6}\right)$

1-115. The longer leg of a right triangle is three inches more than three times the length of the shorter leg. The area of the triangle is 84 square inches. Find the perimeter of the triangle.



$A = \frac{1}{2}bh$

$2(84) = 2\cdot\frac{1}{2}x(3x+3)$

$168 = x(3x+3)$

$0 = 3x^2 + 3x - 168$

$0 = 3(x^2 + x - 56)$

$0 = 3(x+8)(x-7)$

$x = -8, 7$

Questions on the tan worksheet:

6) $y = x^2 + 8x + 7$

$0 = (x+7)(x+1)$

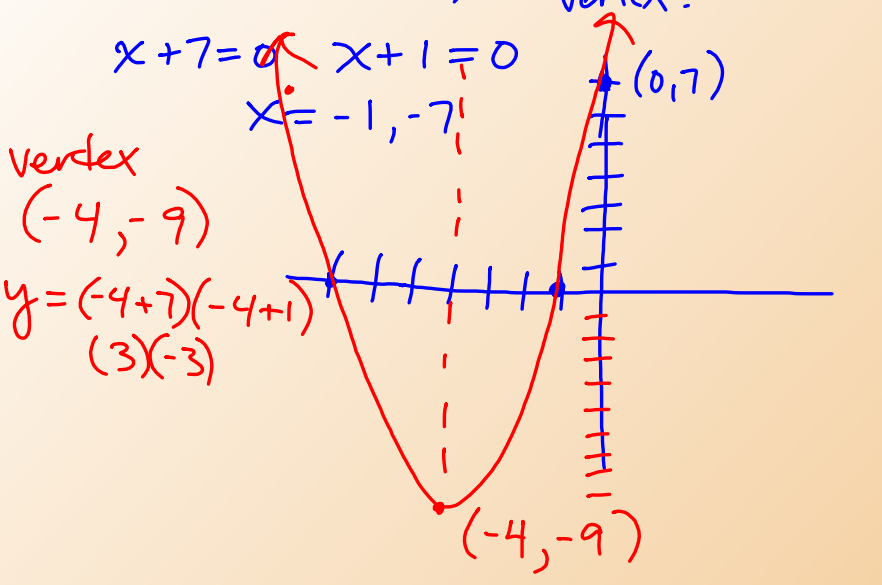
$x+7=0 \quad x+1=0$

$x = -1, -7$

x-int: $(-7,0)(-1,0)$

y-int: $(0,7)$

vertex:



vertex

$(-4,-9)$

$y = (-4+7)(-4+1)$

$(3)(-3)$

Questions on the tan worksheet:

3) $(6,0)$ $(0,1)$

4) $(-5,0)$ $(0,2)$

5a $x = 294$

b) $x = 3, 1$

1) $6x^2 - 3x = 0$

$3x(2x-1) = 0$

$3x = 0 \quad 2x - 1 = 0$

$x = 0, \frac{1}{2}$

Test Review

Investigate and completely describe the functions:

1. $y = x^2 + 2x - 3$

y-int: (0, -3)

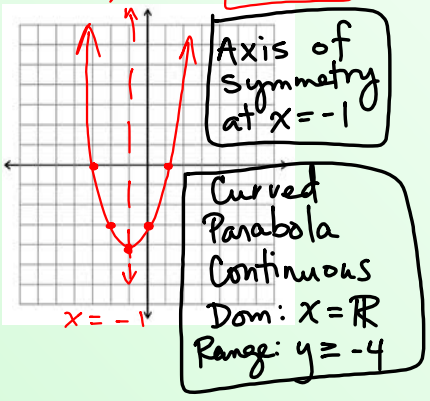
$0 = (x+3)(x-1)$

x-int: (-3, 0) & (1, 0)

vertex: $x = -\frac{3+1}{2} = -1$

$y = (-1+3)(-1-1) = 2(-2)$

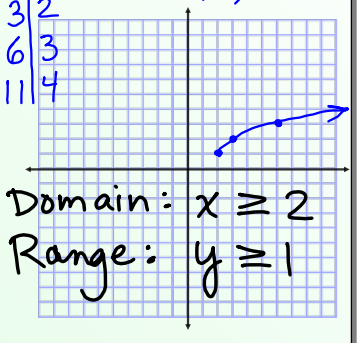
(-1, -4)



2. $y = \sqrt{x-2} + 1$

x	y
2	1
3	2
6	3
11	4

Starting point at (2, 1)



Domain: $x \geq 2$

Range: $y \geq 1$

Week 3 CP's:

Warm Up on top

Green (1 - # 78/79)

Pink 1.2.2 revised

Graph Paper (#98 - 100, 102)

Purple (#111)

HW: Ch. 1 Review #2 Worksheet (Yellow)

(Chapter 1 Test is tomorrow.)

Answers for yellow rev. workshoot.

1a) $f(-2) = -\frac{1}{4}$

b) $g(6) = 3$

c) $f(2)$ is undefined

2) $x = -3$, domain: $x \geq -3$

4a) $x = 4, 3$

b) $x = -7, 1$

c) $x = 0, \frac{1}{2}$

5a) $x = -\frac{1}{4}$

b) $x = -6, 1$

6a) Dom: $-2 \leq x \leq 3$
Range: $-2 \leq y \leq 3$

b) Dom: $x \geq 2$
Range: $y \geq 0$

c) Dom: $x = \mathbb{R}$
Range: $y \geq 1$

7a) 5

b) $f(7) = \frac{5}{2}$

c) $x = 6$